

CLAIMS

What is claimed is:

1. A turbine assembly for use with a rotary atomizer having an atomizer bell
for atomizing paint, comprising:
 - 5 a turbine housing disposed within said rotary atomizer;
 - a locking element received by said turbine housing,
 - a rotary shaft rotatably supported within said turbine housing and having
a distal end adapted to receive the atomizer bell and extending outwardly from said
turbine housing, and said rotary shaft having a proximal end adapted to receive said
10 locking element; wherein said locking element is moveable between a neutral position
and a locking position thereby locking said rotary shaft against said turbine housing in
a non-rotatable position.
2. An assembly as set forth in claim 1, wherein said proximal end of said
15 rotary shaft defines receptors adapted to receive said locking element.
3. An assembly as set forth in claim 2, wherein said receptors comprise
notches disposed in said proximal end of said rotary atomizer.
- 20 4. An assembly as set forth in claim 1, wherein said locking element is
biased in said neutral position.
5. An assembly as set forth in claim 1, wherein said turbine housing includes
a cover plate disposed adjacent said proximal end of said rotary shaft.

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6. An assembly as set forth in claim 5, wherein said cover plate defines a cover plate notch slidably receiving said locking element thereby providing an abutment surface for said locking element for securing said rotary shaft in a non-rotatable position.

5 7. An assembly as set forth in claim 6, wherein said distal end of said rotary shaft defines screw threads for receiving said atomizer bell.

8. An assembly as set forth in claim 1, wherein said rotary shaft includes turbine fan blades circumscribing said rotary shaft thereby providing rotational movement
10 to said atomizer bell.

9. An assembly as set forth in claim 8, wherein said turbine housing defines an aperture fluidly connectable to a source of pressurized air and being cooperable with said fan blades thereby providing rotational movement to said rotary shaft.

10. A rotary atomizer assembly for applying paint to a workpiece, comprising:
- an housing;
 - an atomizer bell extending from said housing;
 - a turbine disposed within said housing and providing bearing surface;
 - 5 a rotary shaft rotatably supported by said bearing surface and coaxially aligned with said turbine, wherein said shaft defines a distal end adapted to receive said atomizer bell and a proximal end adapted to be driven by said turbine; and
 - a locking element received by said turbine and extending through said housing, wherein said locking element is moveable radially inwardly toward said rotary
 - 10 shaft and is engageable with said rotary shaft thereby locking said rotary shaft to said turbine in a non-rotatable position.
11. An assembly as set forth in claim 10, wherein said proximal end of said rotary shaft defines receptors adapted to receive said locking element.
- 15 12. An assembly as set forth in claim 11, wherein said receptors comprise notches disposed in said proximal end of said rotary shaft.
13. An assembly as set forth in claim 10, wherein said locking element is
- 20 biased in a radially outwardly direction from said rotary shaft.
14. An assembly as set forth in claim 10, wherein said locking element includes a depression surface disposed outside said housing.

15. An assembly as set forth in claim 10 wherein said turbine includes a cover plate disposed adjacent said proximal end of said rotary shaft.

5 16. An assembly as set forth in claim 10, wherein said cover plate defines a cover plate notch slidably receiving said locking element thereby providing an abutment surface for said locking element for securing said rotary shaft to said turbine in a non-rotatable position.

10 17. An assembly as set forth in claim 10, wherein said distal end of said rotary shaft defines screw threads for receiving said atomizer bell.

15 18. An assembly as set forth in claim 10, wherein said rotary shaft includes a turbine fan blades circumscribing said rotary shaft thereby providing rotational movement to said atomizer bell.

19. An assembly as set forth in claim 18, wherein said turbine defines an aperture fluidly connectable to a source of pressurized air and being cooperable with said fan blades thereby providing rotational movement to said rotary shaft.